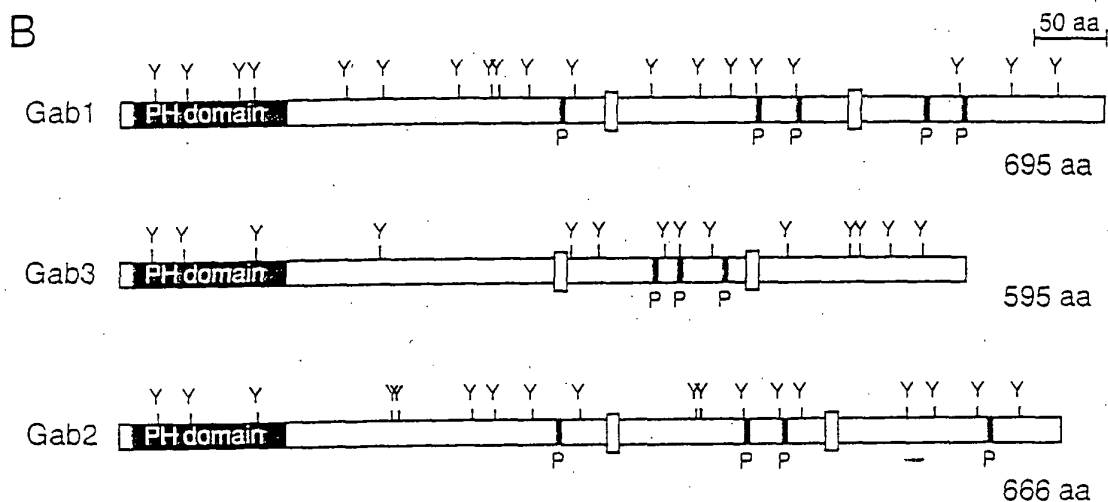A

```
Human   MSAGDAVCTGWLVKSPPERKLQRYAWRKRWFVLRRGRMSGNPDVLEYYRNKHSSKPIRVI  60
Murine  MSTGDTVCMGWLIKSPPERKLQRYAWRKRWFVLRRGRMSGNPDVLEYYRNKHSNKPIRVI  60
        **:**:** ***:************************************** .******

Human   DLSECAVWKHVGPSFVRKEFQNNFVFIVKTTSRTFYLVAKTEQEMQVWVHSISQVCNLGH  120
Murine  DLSECTVWKHAGPGFIRKEFQKNFVFIVKTTSRTFYLVAKTEEEMQVWVHSISQVCNFSH  120
        *****:****.**.*:*****:**********************:************:.*

Human   LEDGADSMESLSYTPSSLQPSSASSLLTAHAASSSLPRDDPNTNAVATEETRSESELLFL  180
Murine  LEDGADSMESLSHMPSSFQPSPASSLHTVHVANSALLKDDGNTNSVVTEETRRESEFLFL  180
        ************: ***:***.**** *.*.*.*:* :** ***:*.***** ***:***

Human   PDYLVLSNCETGRLHHTSLPTRCDSWSNSDRSLEQASFDDVFVDCLQPLPSSHLVHPSCH  240
Murine  PDYLILSNCETGRLHHASLPTRCDSWSNSNHSLAQTSFDDVFLDGLQPFISNNLVHPLHH  240
        ****:***********:************::** *:*******:* ***: *.:**** *

Human   GSGAQEVPSSRPQAALIWSREINGPPRDHLSSSPLLESSLSSTIQVDKNQGSLPCGAKEL  300
Murine  GKVSQDFPSIRPQASLIWNREINGPSRNLMSSSPLLESSLNPTVHVEEKQVSLPSGVKEL  300
        *. .:*:.** ****.***.******.*: :**********..*::*::* ***.*.***

Human   DIMSNTPPPRPPKPSHLSERRQEE--WSTHSGSKKPECTLVPRRISLSGLDNMRTWKADV  358
Murine  NIMSNIPPPRPPKPSYLSEQRQDQPLLTGHSSNKKPGYTMVPRRISLSGLDHVGSWKGDV  360
        :**** *********:***:**::   : **..*** *:***********:: :**.**

                                          p85?                    p85?
Human   EGQSLRHRDKRLSLNLPCRFSPMYPTASASIEDSYVPMSEQAGASGLGPHCSPDDYIPMN  418
Murine  QSQSLRHRDKRLSLNLPCKFSPIYPTASPSAEDSYVPMSEKGTASELRPHCSQDDYIPMS  420
        :.****************:***:***** *.********:. ** * **** ******.

Human   SGSISSPLPELPANLEPPPVNRDLKPQRKSRPPPLDLRNLSIIREHASLTRTRTVPCSRT  478
Murine  S----SMLPELPADLEPPPVNRNLKPQRKSRPPPLDSRNLSTIQEHTSLTRTYTVPCNRT  476
        *     * *****:*******:*.****** *.:**:***** ****.**

                                                  p85?
Human   SFLSPERNGINSARFFANPVSREDEES-------------YIEMEEHRTASSLSSGALTWTK  527
Murine  SFLSPQRNGINCARLFSTPSEEEEEEEEEEEEEEEEEKYIQMEEYGTVSSLSRSALSWTK  536
        *****:*****.**:*:*:.* ..*:**.           **:***: *.**** .**:***

          SHP2                                  SHP2
Human   KFSLDYLALDFNSASPAPMQQKLLLSEEQRVDYVQVDEQKTQALQSTKQEWTDERQSKV  586
Murine  KFSLDYLALDFNSTSPAPVQKKLLLSEEQRVDYVQVDEQKTQAFRSTKQAWTDERQSKV  595
        *************:*.***:*:********************:.**** **********
```

Figure 1A

B

C

```
Gab3    MSTG--D-TVCMGWLIKSPPERKLQRYAWRKRWFVLRRGR        37
Gab2    MSGGGGDDVVCTGWLRKSPPEKKLRRYAWKKRWFILRSGR        40
Gab1    MSGG--E-VVCSGWLRKSPPEKKLKRYAWKRRWFVLRSGR        37
        ** *    :  .** *** *****:**.****:::***:** **


Gab3    MSGNPDVLEYYRNKHSNKPIRVIDLSECTVWKHAGPGFIR        77
Gab2    MSGDPDVLEYYKNEHSKKPLRIINLNLCEQVD-AGLTFNK        79
Gab1    LTGDPDVLEYYKNDHAKKPIRIIDLNLCQQVD-AGLTFNK        76
        ::*:********:*.*::**:*:*:*.  *   .  ** .* :


Gab3    KEFQKNFVFIVKTTSRTFYLVAKTEEEMQVWVHSISQVCN       117
Gab2    KELQDSFVFDIKTSERTFYLVAETEADMNKWVQSICQICG       119
Gab1    KEFENSYIFDINTIDRIFYLVADSEEDMNKWVRCICDICG       116
        **::..::*  ::*  .* *****.:*  :*: **:.*.::*.
```

Figure 1B and C